

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-7382
HALLMARK REFINING CORPORATION

SUMMARY

Hallmark Refining Corporation (HRC) is a photographic film recycler located in Mount Vernon, Skagit County. HRC is located at 1016 Dale Lane in Mount Vernon and discharges wastewater to the city's POTW. The facility during previous permit cycle has maintained satisfactory compliance with its State Waste Discharge Permit and other local requirements sought by the City of Mount Vernon.

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST-7382. The Department of Ecology (Ecology) is proposing to issue this permit, which will allow discharge of wastewater to the City of Mount Vernon Publicly Owned Treatment Works.

This fact sheet explains the nature of the proposed discharge, Ecology's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 WAC).

This fact sheet and draft permit are available for review by interested persons as described in *Appendix A—Public Involvement Information*.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, Ecology will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of Ecology's response.

GENERAL INFORMATION	
Applicant:	Hallmark Refining Corporation 1016 Dale Lane Mount Vernon, WA 98274
Facility Location:	1016 Dale Lane Mount Vernon, WA 98274
Type of Facility:	Photographic Film Recycler
Facility Discharge Location:	Latitude: 48° 24' 05" N Longitude: 122° 20' 00" W
Treatment Plant Receiving Discharge:	Mount Vernon Sewage Treatment Plant

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

Hallmark Refining Corporation (HRC) is a photographic film recycler located in Mount Vernon, Skagit County. HRC is located on 1016 Dale Lane in Mount Vernon, which discharges wastewater to the Mount Vernon POTW. This permit covers the discharge for this facility to the Mount Vernon POTW.

HRC recovers silver compounds from unprocessed photographic films and spent photo chemical solutions from photofinishers, a few hospitals, and circuit board shops in the NW, and a limited part of Eastern Washington and Oregon.

INDUSTRIAL PROCESS

HRC places the scrap unprocessed film it receives in a tank of photographic fixer solution on a batch basis. After HRC has completely stripped the silver halide compounds from the film and suspended the silver in solution, it removes and transfers the film to a fresh water wash tank to wash away the residual fixer remaining on the base material. Then the facility dries, packages, and ships the clean film to an off-site plastic recycling facility. HRC routes the silver halide compounds in solution to the electroplating process which converts it into silver flake.

HISTORY

WASTEWATER GENERATION AND PROPOSED TREATMENT PROCESSES

After HRC completes the plating process, it combines and routes the chemical solution and the received spent photo chemical solutions through four sets of metallic replacement columns to recover any trace of remaining silver prior to storing the wastewater in a collection tank. Employees adjust the pH prior to and after the electroplating process. HRC samples the wastewater at the collection tank to ensure compliance with the permit limits prior to discharge into the sewer. Figure 1 depicts this process. The facility is equipped to conduct atomic absorption (AA) and obtained Ecology accreditation for in-house testing for silver.

HRC tests the latter wash water for silver content to ensure compliance with the sewer's local limits before it discharges directly into the sanitary sewer without treatment. Ecology expects the wash water to contain traces of silver compounds.

DISCHARGE TO POTW

The City of Mount Vernon will ultimately discharge treated wastewater to the Skagit River after it receives secondary treatment from the POTW. Ecology regulates the POTW's effluent by NPDES Permit No. WA-002407-4.

The Mount Vernon POTW is a secondary treatment (activated sludge) facility with a design capacity of 8.2 million gallons per day (MGD). The average flow for the maximum month is 7.5 MGD.

Chapter 173-201A WAC defines applicable designated uses and surface water quality criteria for the Skagit River including:

- The **aquatic life uses** for this receiving water are core summer habitat.
- The **recreational uses** are extraordinary primary contact recreation, primary contact recreation, and secondary contact recreation. The recreational uses for this receiving water are identified below.
- The **water supply uses** are domestic, agricultural, industrial, and stock watering.
- The **miscellaneous fresh water uses** are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

PERMIT STATUS

The previous permit for this facility was issued on April 11, 2003.

An application for permit renewal was submitted to Ecology on October 1, 2007, and accepted by Ecology on February 27, 2008.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) and other reports submitted to Ecology and inspections conducted by Ecology.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports as summarized below:

Parameter	Concentration
Flow	1790 gpd
pH	6 to 10 standard units
Silver	0.02 mg/L to 1.0 mg/L

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Wastewater must be treated using all known, available, reasonable methods of prevention, control, and treatment (AKART) and not interfere with the operation of the POTW.

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by Ecology must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). Ecology considers direct discharging photographic film recyclers as categorical industries in the photographic processing subcategory, subpart A of 40 CFR part 459. The federal effluent limits do not include pretreatment limits and since HRC does not discharge to surface waters, the categorical limits do not apply to the facility. Ecology based the effluent limits in the proposed permit on the local limits which the Mount Vernon Sewage Treatment Plant reviewed and agreed with.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

In order to protect the Mount Vernon POTW from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, limitations for certain parameters are necessary. These limitations below are based on discussions between the city of Mount Vernon and Ecology. The discussions took into consideration the characteristics of the sewage treatment plant (removal efficiency) and the receiving water (for example, water quality standards, dilution factor) and an appropriate allocation of the POTW headworks metal loading capacity.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED ON APRIL 11, 2003

Existing Limits		Proposed Limits	
Parameters	Daily Maximum	Parameters	Daily Maximum
Flow	2000 GPD	Flow	2000 GPD
Silver	1 ppm	Silver	1 ppm
pH	6 to 10 s.u.	pH	6 to 10 s.u.

SEPA COMPLIANCE

During the permitting process for construction of the plant, the city of Mount Vernon became the lead agency for a SEPA checklist review at the site. The city granted a Determination of Non-Significance on April 19, 1996.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

REPORTING AND RECORD KEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges [WAC 173-216-110 and 40 CFR 403.12 (e),(g), and (h)].

OPERATIONS AND MAINTENANCE

The proposed permit contains Condition S.5 as authorized under WAC 173-240-150 and WAC 173-216-110. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

SOLID WASTE PLAN

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state and submit it to Ecology. The plan must also be submitted to the local solid waste permitting agency for approval.

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these wastewaters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge to the municipality, require the wastewater to be placed through the facilities wastewater treatment process, or require the water to be reused.

SPILL PLAN

Ecology has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. Ecology has the authority to require the Permittee to develop best management plans to prevent this accidental release under Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires the Permittee to develop and implement a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs.

SLUG DISCHARGE CONTROL PLAN

Ecology has determined that the Permittee has the potential for a batch discharge or a spill that could adversely effect the POTW therefore a slug discharge control plan is required (40 CFR 403.8 (f)).

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by Ecology.

Condition G1 requires responsible officials or their designated representatives to sign submittals to Ecology.

Condition G2 requires the Permittee to allow Ecology to access the treatment system, production facility, and records related to the permit.

Condition G3 specifies conditions for modifying, suspending, or terminating the permit.

Condition G4 requires the Permittee to apply to Ecology prior to increasing or varying the discharge from the levels stated in the permit application.

Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents.

Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations.

Condition G7 relates to permit renewal and transfer.

Condition G8 requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit.

Condition G9 prohibits the reintroduction of removed pollutants into the effluent stream for discharge.

Condition G10 requires the payment of permit fees.

Condition G11 describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by Ecology in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. Ecology proposes that the permit be issued for five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

Laws and Regulations (<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information

(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

APPENDICES

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

Ecology has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet. No major changes have been made to this permit since the last issuance, so public notification of the application or draft permit were not required.

This permit was written by Ed Abbasi.

APPENDIX B—GLOSSARY

AKART—The acronym for “all known, available, and reasonable methods of prevention, control and treatment.” AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and 520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

Alternate Point of Compliance—An alternative location in the ground water from the point of compliance where compliance with the ground water standards is measured. It may be established in the ground water at locations some distance from the discharge source, up to, but not exceeding, the property boundary and is determined on a site-specific basis following an AKART analysis. An “early warning value” must be used when an alternate point is established. An alternate point of compliance must be determined and approved in accordance with WAC 173-200-060(2).

Ammonia—Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month’s time.

AKART—This acronym is defined as: All known, available, and reasonable methods of prevention, control, and treatment. AKART is a technology-based approach to limiting pollutants from wastewater discharges which requires an engineering judgment and an economic judgment.

Background Water Quality—The concentrations of chemical, physical, biological, or radiological constituents or other characteristics in or of ground water at a particular point in time upgradient of an activity that has not been affected by that activity [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95 percent upper tolerance interval with a 95 percent confidence based on at least eight hydraulically upgradient water quality samples. The eight samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

Best Management Practices (BMPs)—Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅—Determining the Biochemical Oxygen Demand (BOD₅) of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling—A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling—A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be “time-composite” (collected at constant time intervals) or “flow-proportional” (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity—Clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous Monitoring—Uninterrupted, unless otherwise noted in the permit.

Early Warning Value—The concentration of a pollutant set in accordance with WAC 173-200-070 that is a percentage of an enforcement limit. It may be established in the effluent, ground water, surface water, the vadose zone, or within the treatment process. This value acts as a trigger to detect and respond to increasing contaminant concentrations prior to the degradation of a beneficial use.

Enforcement Limit—The concentration assigned to a contaminant in the ground water at the point of compliance for the purpose of regulation [WAC 173-200-020(11)]. This limit assures that a ground water criterion will not be exceeded and that background water quality will be protected.

Engineering Report—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Ground water—Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

Grab Sample—A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial User—A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated stormwater and, also, leachate from solid waste facilities.

Interference—A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits—Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)—The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Pass-through—A discharge which exits the POTW into waters of the state in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of state water quality standards.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Point of Compliance—The location in the ground water where the enforcement limit shall not be exceeded and a facility must be in compliance with the ground water quality standards. It is determined on a site-specific basis and approved or designated by Ecology. It should be located in the ground water as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless an alternative point of compliance is approved.

Potential Significant Industrial User—A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 percent of treatment plant design capacity criteria and discharges <25,000 gallons per day; or
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass-through or interference at the POTW (for example, facilities which develop photographic film or paper, and car washes).

Ecology may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)—A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU)—

1. All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; and
2. Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge—Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

Soluble BOD₅—Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 um filter prior to running the standard BOD₅ test is sufficient to remove the particulate organic fraction.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria—A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids—That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)—Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.